

Amndt. dated April 26, 2005
Reply to Office action of Jan. 26, 2005

Serial No. 09/882,243
Docket No. BLD920000050US1
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This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for managing a multi-page document, comprising:

receiving a plurality of input files including digital representations of multiple pages of a document, wherein the content of each entire page is represented in a first representation format, wherein the entire page content is capable of including content of a first content type and second content type;

for each page of the document represented in the input files, performing:

- (i) determining regions in the page including content of the second content type;
- (ii) processing each determined region in the page to generate the content for each region in a second representation format; and
- (iii) adding the content of the entire page in the first representation format and the content of each region in the second representation format to at least one output file; and
- (iv) storing the output file.

2. (Original) The method of claim 1, wherein the first content style comprises text and line art and wherein the second content style comprises a continuous tone image.

3. (Original) The method of claim 1, wherein the first representation format comprises a device dependent image format and the second representation format comprises a device independent image format.

4. (Original) The method of claim 3, wherein the device dependent format comprises a halftone image format and the device independent format comprises a grey scale image format.

5. (Original) The method of claim 4, wherein processing each determined region in the page to generate content in the gray scale format comprises descreeening the halftone format

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of the determined region in the page to generate the determined region in the gray scale image format.

6. (Original) The method of claim 1, wherein each output file is capable of including content in the first and second representation formats for one page.

7. (Original) The method of claim 1, wherein each output file is capable of including content in the first and second representation formats for a plurality of pages.

8. (Currently Amended) The method of claim 1, further comprising:
selecting the output files to render; and
for each page of the document represented in the selected output files, performing:
(i) accessing the content of the entire page in the first representation format;
(ii) accessing the content for each region in the page in the second representation format;
(iii) processing the content for each region in the page in the second representation format to generate the content for each region in the first representation format;
(iv) merging the content for the entire page and the content for each region in the first representation format into page output in the first representation format; and
(v) rendering the page output for each page into a human observable format.

9. (Original) The method of claim 8, wherein each output file includes one data structure for the content of the entire page in the first representation format and one additional data structure of the content for each determined region in the second representation format.

10. (Original) The method of claim 9, wherein the output file comprises a Tagged Image File Format (TIFF) file and wherein information on each data structure is maintained in an image file directory (IFD).

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11. (Original) The method of claim 8, further comprising:
determining if a high quality option is selected, wherein the step of processing the content for each region in the second representation format to generate the content for each region in the first representation format and merging the content for the entire page and each page region is only performed if the high quality option is selected.

12. (Currently Amended) The method of claim 11, further comprising:
rendering the content of the entire page in the first representation format if the high [[print]] quality options is not selected.

13. (Original) The method of claim 8, wherein each region in the page in the second representation format is processed to generate the content for each region in the first representation format in a manner that optimizes the generated content in the first representation format for rendering on one of multiple output devices.

14. (Original) The method of claim 1, wherein the multi-page document is managed in a printing system.

15. (Original) The method of claim 1, wherein the multi-page document is managed within a network publishing system to archive the document for later rendering on one of multiple network printing devices.

16. (Currently Amended) A system for managing a multi-page document, comprising:
means for receiving a plurality of input files including digital representations of multiple pages of a document, wherein the content of each entire page is represented in a first representation format, wherein the entire page content is capable of including content of a first content type and second content type;

means for performing for each page of the document represented in the input files:
(i) determining regions in the page including content of the second content type;
(ii) processing each determined region in the page to generate the content for each region in a second representation format; and

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(iii) adding the content of the entire page in the first representation format and the content of each region in the second representation format to at least one output file; and
(iv) storing the output file.

17. (Original) The system of claim 16, wherein the first content style comprises text and line art and wherein the second content style comprises a continuous tone image.

18. (Original) The system of claim 16, wherein the first representation format comprises a device dependent image format and the second representation format comprises a device independent image format.

19. (Original) The system of claim 18, wherein the device dependent format comprises a halftone image format and the device independent format comprises a grey scale image format.

20. (Original) The system of claim 19, wherein the means for processing each determined region in the page to generate content in the gray scale format descreens the halftone format of the determined region in the page to generate the determined region in the gray scale image format.

21. (Original) The system of claim 16, wherein each output file is capable of including content in the first and second representation formats for one page.

22. (Original) The system of claim 16, wherein each output file is capable of including content in the first and second representation formats for a plurality of pages.

23. (Original) The system of claim 16, further comprising:
means for selecting the output files to render; and
means for perform for each page of the document represented in the selected output files:
(i) accessing the content of the entire page in the first representation format;

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- (ii) accessing the content for each region in the page in the second representation format;
- (iii) processing the content for each region in the page in the second representation format to generate the content for each region in the first representation format;
- (iv) merging the content for the entire page and the content for each region in the first representation format into page output in the first representation format; and
- (v) rendering the page output for each page into a human observable format.

24. (Original) The system of claim 16, wherein each output file includes one data structure for the content of the entire page in the first representation format and one additional data structure of the content for each determined region in the second representation format.

25. (Original) The system of claim 24, wherein the output file comprises a Tagged Image File Format (TIFF) file and wherein information on each data structure is maintained in an image file directory (IFD).

26. (Original) The system of claim 25, further comprising:
means for determining if a high quality option is selected, wherein the steps of processing the content for each region in the second representation format to generate the content for each region in the first representation format and merging the content for the entire page and each page region is only performed if the high quality option is selected.

27. (Currently Amended) The system of claim 26, further comprising:
means for rendering the content of the entire page in the first representation format if the high [[print]] quality option is not selected.

28. (Original) The system of claim 23, wherein each region in the page in the second representation format is processed to generate the content for each region in the first representation format in a manner that optimizes the generated content in the first representation format for rendering on one of multiple output devices.

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29. (Original) The system of claim 16, wherein the multi-page document is managed in a printing system.

30. (Original) The system of claim 16, wherein the multi-page document is managed within a network publishing system to archive the document for later rendering on one of multiple network printing devices.

31. (Currently Amended) An article of manufacture implementing code to manage a multi-page document by:

receiving a plurality of input files including digital representations of multiple pages of a document, wherein the content of each entire page is represented in a first representation format, wherein the entire page content is capable of including content of a first content type and second content type;

for each page of the document represented in the input files, performing:

- (i) determining regions in the page including content of the second content type;
- (ii) processing each determined region in the page to generate the content for each region in a second representation format; and
- (iii) adding the content of the entire page in the first representation format and the content of each region in the second representation format to at least one output file; and
- (iv) storing the output file.

32. (Original) The article of manufacture of claim 31, wherein the first content style comprises text and line art and wherein the second content style comprises a continuous tone image.

33. (Original) The article of manufacture of claim 31, wherein the first representation format comprises a device dependent image format and the second representation format comprises a device independent image format.

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34. (Original) The article of manufacture of claim 33, wherein the device dependent format comprises a halftone image format and the device independent format comprises a grey scale image format.

35. (Original) The article of manufacture of claim 34, wherein processing each determined region in the page to generate content in the gray scale format comprises descreening the halftone format of the determined region in the page to generate the determined region in the gray scale image format.

36. (Original) The article of manufacture of claim 31, wherein each output file is capable of including content in the first and second representation formats for one page.

37. (Original) The article of manufacture of claim 31, wherein each output file is capable of including content in the first and second representation formats for a plurality of pages.

38. (Original) The article of manufacture of claim 31, further comprising:
selecting the output files to render; and
for each page of the document represented in the selected output files, performing:
(i) accessing the content of the entire page in the first representation format;
(ii) accessing the content for each region in the page in the second representation format;
(iii) processing the content for each region in the page in the second representation format to generate the content for each region in the first representation format;
(iv) merging the content for the entire page and the content for each region in the first representation format into page output in the first representation format; and
(v) rendering the page output for each page into a human observable format.

39. (Original) The article of manufacture of claim 38, wherein each output file includes one data structure for the content of the entire page in the first representation format and

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one additional data structure of the content for each determined region in the second representation format.

40. (Original) The article of manufacture of claim 39, wherein the output file comprises a Tagged Image File Format (TIFF) file and wherein information on each data structure is maintained in an image file directory (IFD).

41. (Original) The article of manufacture of claim 38, further comprising: determining if a high quality option is selected, wherein the step of processing the content for each region in the second representation format to generate the content for each region in the first representation format and merging the content for the entire page and each page region is only performed if the high quality option is selected.

42. (Currently Amended) The article of manufacture of claim 41, further comprising: rendering the content of the entire page in the first representation format if the high [[print]] quality option is not selected.

43. (Original) The article of manufacture of claim 38, wherein each region in the page in the second representation format is processed to generate the content for each region in the first representation format in a manner that optimizes the generated content in the first representation format for rendering on one of multiple output devices.

44. (Original) The article of manufacture of claim 31, wherein the multi-page document is managed in a printing system.

45. (Original) The article of manufacture of claim 31, wherein the multi-page document is managed within a network publishing system to archive the document for later rendering on one of multiple network printing devices.